

IN THE CLAIMS

Claims 1-24 (Cancelled):

Claim 25 (Withdrawn): An osteoclast precursor cell, which is obtainable by the method of claim 20.

Claim 26 (Currently Amended): A method for producing an osteoclast, comprising: culturing an osteoclast precursor cell ~~obtained by the method of Claim 20~~ in the absence of accessory cells in a culture medium comprising one or more compound(s) selected from the group consisting of IL-3, IL-7, GM-CSF, eotaxin, eotaxin-2, and eotaxin-3, and recovering or isolating an osteoclast;

wherein said osteoclast precursor cell is obtained by culturing a hematopoietic stem cell-derived cell obtained from peripheral blood or joint fluid in an essential medium for mammalian cells, optionally with added serum, in the absence of additional cytokine(s).

Claim 27 (Previously Presented): The method of Claim 26, wherein said osteoclast precursor cell is obtained by culturing a cell from joint fluid.

Claim 28 (Previously Presented): The method of Claim 26, wherein said osteoclast precursor cell is obtained by culturing a cell from peripheral blood.

Claim 29 (Previously Presented): The method of Claim 26, wherein said culture medium comprises IL-3.

Claim 30 (Previously Presented): The method of Claim 26, wherein said culture medium comprises IL-7.

Claim 31 (Previously Presented): The method of Claim 26, wherein said culture medium comprises GM-CSF.

Claim 32 (Previously Presented): The method of Claim 26, wherein said culture medium comprises eotaxin.

Claim 33 (Previously Presented): The method of Claim 26, wherein said culture medium comprises eotaxin-2.

Claim 34 (Previously Presented): The method of Claim 26, wherein said culture medium comprises eotaxin-3.

Claim 35 (Previously Presented): The method of Claim 26, wherein said culture medium comprises a culture supernatant of mitogen-stimulated peripheral blood mononuclear cells.

Claim 36 (Previously Presented): The method of Claim 26, wherein said culture supernatant comprises a supernatant of phytohemagglutinin-stimulated human peripheral blood mononuclear cells.

Claim 37 (Withdrawn): An osteoclast, which is obtainable by the method of claim 26.

Claim 38 (Withdrawn): A method for screening an agent for treating or preventing a metabolic bone disease, which comprises contacting an osteoclast precursor cell isolated by the method of claim 20 with an agent to be tested, and measuring the inhibitory activity of said agent on differentiation of the osteoclast precursor into an osteoclast.

Claim 39 (Withdrawn): A method for screening an agent for treating or preventing a metabolic bone disease, which comprises using the osteoclast precursor cell of Claim 20.

Claim 40 (Withdrawn): A method for screening an agent for the treatment or prevention of a metabolic bone disease, which comprises contacting the osteoclast of Claim 37 with a agent to be tested and measuring inhibitory activity of said agent on the bone resorption activity of said osteoclast.

Claim 41 (Withdrawn): An agent for treating or preventing a metabolic bone disease which is obtainable by the method of Claim 40.

Claim 42 (New): The method of Claim 26, wherein said osteoclast precursor cell is obtained by culturing said hematopoietic stem cell-derived cell for at least 1-3 weeks.

Claim 43 (New): The method of Claim 26, wherein said essential medium for mammalian cells contains serum.

Claim 44 (New): The method of Claim 26, wherein said hematopoietic stem cell-derived cell is obtained from peripheral blood mononuclear cells.

Claim 45 (New): The method of Claim 26, wherein said hematopoietic stem cell-derived cell is obtained from a cellular fraction of joint fluid which contains granulocytes and lymphocytes.

Claim 46 (New): The method of claim 26, wherein said hematopoietic stem cell-derived cell is cultured at a temperature ranging from 35-37°C in 5-7% CO₂-containing air for 1 - 3 weeks.